Giant Thymoma with Pressure Symptoms: Case Report and Clinical Approach

Ayman F. Yousef, MD\textsuperscript{1}, Safa A. Alabdaljabbar, MD\textsuperscript{1}, Manoj P. Babu, MD\textsuperscript{2}, Mohamad Alshakaki, MD\textsuperscript{3}

\textsuperscript{1}Department of Thoracic Surgery, King Saud Medical City, Riyadh, KSA.
\textsuperscript{2}Department of Anastasia, King Saud Medical City, Riyadh, KSA.
\textsuperscript{3}Department of Radiology, King Saud Medical City, Riyadh, KSA.

**ABSTRACT**
Thymoma is a rare neoplasm of the anterior mediastinum; most are discovered incidentally in chest X-ray. Here we report a 62 years old man presenting with shortness of breath and cough due to ignored huge lesion extending into the right chest cavity. The tumor was completely resected through right posterolateral thoracotomy. The postoperative course was uneventful. The pathology report classified the lesion as thymoma type AB stage II.

**Key words**: Thymoma, Mediastinal Masses, Huge Tumour, Dyspnea, Cough, Right Sided Chest Discomfort.

**INTRODUCTION**
Thymomas are rare neoplasms, accounting for less than 1\% of all adult malignancies.\textsuperscript{1} They are most commonly found in the anterior mediastinum, although they have been reported in the neck, lung, and pericardium. About one half of patients are asymptomatic while others present with vague chest pain, dyspnea, or cough and some present with constitutional symptoms.\textsuperscript{2} Computed tomography (CT) is the diagnostic tool of choice to image the mediastinal lesion and its anatomical extent. Fine needle aspiration (FNA) biopsy or CT guided core needle biopsy are feasible methods to differentiate mediastinal lesions.\textsuperscript{3} Surgery remains the baseline attempt in thymoma therapy and the only curative treatment.

**CASE DESCRIPTION**
57 years old Yemeni male non-smoker, presented with history of fall down on July 2009 complain of left chest pain, no shortness of breath, no history of loss of consciousness. On examination he was hemodynamically stable, his chest was tender over the left 6\textsuperscript{th}-7\textsuperscript{th} ribs with decrease air entry on the right side. Chest x-ray revealed no obvious injury but there was large right lung lesion. CT chest showed right large middle zone soft lung mass 12x12x11 cm (Figure 1 A and B). Core biopsy was taken and the results were suspicious of lymphoma. After few days, the patient signed out as discharge against medical advice. In February 2016, the patient came back complaining of shortness of breath, right chest discomfort and cough. No history of fever. On examination there was decrease air entry on the right side of the chest, but no palpable lymph nodes. Laboratory investigations were within normal. CT chest showed large right chest soft tissue mass consisting of multifocal hyperdensities separated by hypodense areas, lobulated, measuring 19x16x11 cm, the mass lesion has sharp smooth outline and appeared merging with medial and anterior pleural surface, causing compression collapse of right middle lobe with mild mediastinal shift to ipsilateral side (Figure 1 C). The findings of Trucut biopsy consistent of spindle cell tumor. Bronchoscopy showed signs of outside compression at the proximal part of the right main bronchus with some whitish secretions.

A right posterolateral thoracotomy done to the patient under general anesthesia and large mass found extending from anterior mediastinum which was excised completely and delivered in tow pieces, measuring 14x13x8 cm and weighing around 1,248 grams. Histopathology results were consistent with Thymoma of (AB) type and stage II (Figure 2). The patient was discharge 10 days later in excellent condition. No further therapy was given and the patient was recovering well as observed during follow-up.

**DISCUSSION**
Thymomas are rare neoplasms of the anterior mediastinum which represent 20-30\% of mediastinal tumors in adults.\textsuperscript{3,4} Most of nonmystenic thymomas are asymptomatic and discovered...
Several classification systems of thymomas have been developed and described. However, the World Health Organization histological classification and staging system acknowledging the presence of invasion and anatomic extent of involvement described by Masaoka et al. are the most used systems for classifying thymomas (Table 1).

Table 1: Thymoma Classification Systems

<table>
<thead>
<tr>
<th>Classification systems</th>
<th>WHO</th>
<th>Masaoka</th>
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<tbody>
<tr>
<td></td>
<td>Based on the traditional descriptive classification and the corticomedullary classification</td>
<td>Presence of invasion and anatomic extent of involvement (clinically and histopathologically)</td>
</tr>
<tr>
<td>A</td>
<td>Bland spindle/oval epithelial tumor cells with few or no lymphocytes. (Synonyms: spindle cell thymoma; medullary thymoma)</td>
<td>I</td>
</tr>
<tr>
<td>AB</td>
<td>Mixture of a lymphocyte-poor type A thymoma component and a more lymphocyte-rich type B-like component. (Synonyms: mixed thymoma)</td>
<td>II</td>
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<td>B1</td>
<td>Histological appearance of normal thymus, composed predominantly of areas resembling cortex with epithelial cells scattered in a predominant population of immature lymphocytes, and areas of medullary differentiation. (Synonyms: lymphocyte-rich thymoma; predominantly cortical thymoma)</td>
<td>III</td>
</tr>
<tr>
<td>B2</td>
<td>Large, polygonal tumor cells that are arranged in a loose network and exhibit large vesicular nuclei with prominent large nucleoli – background population of immature T-cells always present. (Synonyms: cortical thymoma)</td>
<td>IVa</td>
</tr>
<tr>
<td>B3</td>
<td>Predominantly medium-sized round or polygonal cells with slight atypia. Epithelial cells are mixed with minor component of intraepithelial lymphocytes. (Synonyms: well-differentiated thymic carcinoma; epithelial thymoma; squamoid thymoma)</td>
<td>IVb</td>
</tr>
<tr>
<td>C</td>
<td>Heterogeneous group of thymic carcinomas</td>
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Computed tomography (CT) is the examination of choice for suspected mediastinal tumors in order to characterize the mass in regard to its anatomic dissemination and invasion of neighboring structures, as well as possible distant metastases. CT-guided biopsy as suggested by Filosso et al. is superior to fine needle aspiration but it failed to obtain a conclusive diagnosis as was the case here. The definitive diagnosis can be achieved by postoperative pathological examination.

Surgical resection of the tumor is the choice of treatment for thymoma. Although median sternotomy is the standard approach for thymomas, only few cases of giant thymomas were resected via median sternotomy. It is more suitable for normal size tumors. Three cases of giant thymomas were resected through anterolateral thoracotomy and one was reported through hemiclamlshell approach. In this case, the approach was through posterolateral thoracotomy. Postoperative radiotherapy as adjuvant is used for partially resected or invasive thymomas. However the use of adjuvant radiotherapy in complete resected Masaoka stage II tumors remains controversial. In the case described above, no further adjuvant therapy was planned. On the other hand, chemotherapy is adopted in selected patients with inoperable or gross residual disease after local treatment.

REFERENCES


Source of Support: Nil. Conflict of Interest: None Declared.

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